

### **Remarks**

Claims 1-31 are pending in this application. Claims 18-30 have been withdrawn from consideration.

#### ***I. Withdrawn Claims***

Claims 18-30 are withdrawn from consideration according to the modified restriction requirement. Applicants thank the examiner for modifying the restriction requirement to include claims 9-17 in group I, elected by Applicants' June 5, 2003 Response to the Restriction Requirement.

#### ***II. Claim Rejections - 35 U.S.C. § 112***

Claims 3-6 were rejected as being indefinite for reciting the term "average molecular weight" without specifying whether it was the number average molecular weight or the weight average molecular weight. Applicants respectfully traverse this rejection.

It is clear to those of ordinary skill in the art based on general usage of the terminology<sup>1</sup> and from the usage of the terminology in the specification (e.g., ¶¶ 0051 and 0052) that the average molecular weight as recited in the claims refers to the weight average. Accordingly, Applicants respectfully request the rejections be withdrawn.

#### ***III. Claim Rejections - 35 U.S.C. § 102***

Claims 1-12, 14-17 and 31 are rejected as allegedly being anticipated by Domb et al., (U.S. Pat. No. 6,007,845). Applicants traverse this rejection.

Applicants' independent claims 1 and 9 recite a "thermogelling biodegradable aqueous polymer solution." Domb does not disclose thermogelling solutions.

The copolymer particles recited by Domb do not and cannot form thermogelling solutions. In fact, the micro and nanoparticles of Domb and the thermogelling solutions presently claimed are mutually exclusive concepts. Domb's particles are not thermogelling as they are insoluble in water. If the Domb polymers were not insoluble, the particles would dissolve when introduced into an aqueous medium, defeating the goal of Domb to create stable

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<sup>1</sup> For example, please see the definition of the terminology in the Dictionary of Scientific and Technical Terms, McGraw-Hill, Fifth Ed. (1994).

particles for the controlled delivery of bioactive materials. (Col. 2, ll. 62-66; col. 4, ll. 15-22; and col. 5, ll. 59-61.) Furthermore, Domb makes no reference to the effect of temperature on copolymer solubility because the formation of thermogelling solutions neither occurs nor was it contemplated by Domb.

Applicants' claim 31 recites copolymers wherein each block of the copolymer is itself an independent polymer structure consisting of either polyethylene glycol or a biodegradable polyester. Specifically, claim 31 recites a biodegradable polymer comprising a polyethylene glycol (PEG) block; and a biodegradable polyester block, *wherein the blocks are linked to form a polymer of a general structure comprising the formula  $A_n(B)$ , where n is greater than 2 and A is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, B is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, and A is different from B.*

In contrast, Domb does not disclose copolymers having polyethylene glycol or biodegradable polyester polymer backbones but instead discloses a hydrophilic polymer and a hydrophobic polymer covalently linked to backbone (referred to as a "multifunctional compound"). (Col. 2, ll. 36-56; col. 3, l. 66-col. 4, l. 9.) Domb neither teaches nor suggests a copolymer having a backbone (or "multifunctional compound") consisting of PEG block or a biodegradable polyester block as recited in the present claims.

Accordingly, claims 1-12, 14-17 and 31 are allowable over Domb.

### ***III. Claim Rejections - 35 U.S.C. § 103(a)***

Claims 1-17 and 31 are rejected as allegedly being obvious over Domb in view of Prokop (2003/0035838) or Cha et al., (U.S. Pat. No. 5,702,717). Applicants traverse this rejection.

Neither Prokop nor Cha makeup for the deficiencies of Domb as set forth above. Accordingly, claims 1-17 and 31 are allowable over the art of record. That is, none of the cited art, whether considered independently or in combination, teaches or suggests a thermogelling biodegradable aqueous polymer solution or a biodegradable polymer comprising a polyethylene glycol (PEG) block; and a biodegradable polyester block, *wherein the blocks are linked to form a polymer of a general structure comprising the formula  $A_n(B)$ , where n is greater than 2 and A is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester*

*block, B is selected from the group consisting of a polyethylene glycol block and a biodegradable polyester block, and A is different from B.*

**IV. Dependent claims**

All rejected dependent claims are allowable for the reasons stated above for the independent claims. Each of the dependent claims is further allowable in view of each claim's unique and non-obvious combination of features.


**V. Conclusion**

For the above set out reasons, it is respectfully submitted that all of the claims are allowable and early notification to this effect is respectfully requested.

Respectfully submitted,

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